State Revolving Fund Loan Programs
Drinking Water, Wastewater, Nonpoint Source

ENVIRONMENTAL ASSESSMENT
AND
FINDING OF NO SIGNIFICANT IMPACT

CITY OF GREENSBURG
PHASE 2: RAW WATER MAIN FROM FLATROCK RIVER INTAKE FACILITY TO EXISTING TREATMENT PLANTS
STATE REVOLVING FUND PROJECT # DW07 03 16 04

DATE: March 17, 2008

DEADLINE FOR SUBMITTAL OF COMMENTS: April 16, 2008

I. INTRODUCTION

The above entity has applied to the State Revolving Fund Loan Program (SRF) for a loan to finance all or part of the drinking water project described in the accompanying Environmental Assessment (EA). As part of facilities planning requirements, an environmental review has been completed which addresses the project's impacts on the natural and human environment. This review is summarized in the attached EA.

II. PRELIMINARY FINDING OF NO SIGNIFICANT IMPACT (FNSI)

The SRF has evaluated all pertinent environmental information regarding the proposed project and determined that an Environmental Impact Statement is not necessary. Subject to responses received during the 30-day public comment period, and pursuant to Indiana Code 4-4-11, it is our preliminary finding that the construction and operation of the proposed facilities will result in no significant adverse environmental impact. In the absence of significant comments, the attached EA shall serve as the final environmental document.

III. COMMENTS

All interested parties may comment upon the EA/FNSI. Comments must be received at the address below by the deadline date above. Significant comments may prompt a reevaluation of the preliminary FNSI; if appropriate, a new FNSI will be issued for another 30-day public comment period. A final decision to proceed, or not to proceed, with the proposed project shall be effected by finalizing, or not finalizing, the FNSI as appropriate. Comments regarding this document should be sent within 30 days to:

Max Henschen
Senior Environmental Manager
State Revolving Fund
100 N. Senate Ave., IGCN 1275
Indianapolis, IN 46204
317-232-8623

ENVIRONMENTAL ASSESSMENT

I. PROJECT IDENTIFICATION

Project Name and Address:	**City of Greensburg** Raw Water Transmission Main 314 West Washington Street Greensburg, Indiana 47240
SRF Project Number:	DW07 03 16 04
Authorized Representative:	Gary Herbert, Mayor

II. PROJECT LOCATION

The city proposes to construct a 24-inch raw water transmission main from the Flat Rock River Intake Facility approximately eight miles northwest of Greensburg to the New Ground Water Treatment Plant and the existing Surface Water Plant, both of which are in the vicinity of Fourth Street and Ireland Street. The raw water main route is shown on Figure 1. The project is located in the following US Geological Survey quadrangles:

Adams Quadrangle, T11N, R8E, Section 12;
Adams Quadrangle, T11N, R9E, Sections 13,17,18,20,28, and 29;
Forest Hill Quadrangle, T11N, R9E, Sections 27, 28, and 34;
Greensburg Quadrangle, T11N, R9E, Section 35; and
Greensburg Quadrangle, T10N, R9E, Section 2.

III. PROJECT NEED AND PURPOSE

The project is needed to meet a 3.9 million gallons per day (MGD) average daily demand and a 4.8 MGD maximum daily demand due to existing and future residential, commercial and industrial needs in the Greensburg service area, including the Honda assembly plant currently under construction. The city's capacity to provide raw water for storage and eventual treatment is partially limited by the size of the existing 14-inch cast iron raw water main. Currently, raw water from the Flatrock River Intake facility is conveyed to the Upland storage reservoir or to city via a 14-inch cast iron water main.

IV. PROJECT DESCRIPTION

The project will install 48,000 feet of 24-inch ductile iron water main, various fittings, nine combination air release and valve vaults, 400 feet of creek crossings, nine road crossings, various valves and two cleaning access stations. After the new main is installed, the existing 14-inch line will remain in service as an auxiliary line. The new raw water main will connect to the city via the Upland Reservoir at the reservoir's Low Service Pump Station.

V. ESTIMATED PROJECT COSTS, AFFORDABILITY AND FUNDING

A. Selected Plan Estimated Cost Summary

Construction Costs	
48,000 feet 24-inch Ductile Iron Pipe	$4,956,000
Creek Crossings	100,000
Highway Boring	480,000
	$5,536,000
contingencies	554,000
subtotal	$6,090,000
Non-Construction Costs	
Engineering, legal and accounting	1,218,000
Total Estimated Project Costs	**$7,310,000**

B. Greensburg may borrow approximately $7,310,000 from the State Revolving Fund (SRF) Loan Program for a 20-year term at an interest rate to be determined at the loan closing. Monthly user rates and charges may need to be analyzed to determine if adjustments are required for loan repayment.

VI. DESCRIPTION OF EVALUATED ALTERNATIVES

No Action: The no-action alternative would not provide the needed supply capacity and therefore was rejected.

Water supplies from neighboring water utilities: This alternative was rejected because of cost and inadequate raw water supply.

Install new raw water main: As outlined in Section IV, this is the selected alternative. This project is part of a larger plan to address area water needs.

VII. ENVIRONMENTAL IMPACTS OF THE FEASIBLE ALTERNATIVES

A. Direct Impacts of Construction and Operation

Archaeological Resources: Water main construction will occur within existing road rights-of-way, as well as in agricultural areas and other areas undisturbed by previous construction activity. Archaeological surveys were performed on the agricultural and other undisturbed areas, and more intensive follow-up investigations were implemented where deemed necessary by the Indiana Department of Natural Resources Division of Historic Preservation and Archaeology. The results of these surveys and investigations indicate that the project will not affect archaeological resources.

Structural Resources: The project will not affect historic structures or sites. Audible or visual effects on such sites will be temporary. The SRF's finding pursuant to Section 106 of the National Historic Preservation Act is: "no historic properties affected."

Plants and Animals: This project will not affect endangered plants or animals. Installation of the northernmost portion of the line may require some minor tree removal along old US 421 near the Flatrock Intake facility. Some patches of scrubby brush and small trees may need to be removed where the raw water main crosses the small intermittent streams along old US 421 and east of I-74.

Surface Waters: This project will affect surface waters. Clifty Creek and the Muddy Fork Sand Creek will be crossed using directional drilling methods. Four ephemeral streams will be crossed by open cut excavation; such crossings will likely be accomplished in one day each.

Wetlands: This project will avoid wetlands for the most part, although one ditch wetland will be crossed by open cut excavation south of West Smith Road/CR 150 N north of State Road 3.

100-Year Floodplain: The proposed water main will be underground and will not displace floodwaters.

Groundwater: Groundwater will not be negatively affected by the proposed project. There are no sole source aquifers in the project area.

Prime Farmland: This raw water main project will not convert prime farmland.

Air Quality: Air quality will be temporarily impacted by construction activities, including vehicle exhaust and dust.

Open Space and Recreational Opportunities: The project's construction and operation will neither create nor destroy open space and recreational opportunities.

The project will not affect National Natural Landmarks.

B. Indirect Impacts

The city's Preliminary Engineering Report (PER) states: *"The City of Greensburg and Decatur County have competent planning and zoning departments, and strive to protect sensitive environmental resources, including wetlands, 100-year floodplains, forested areas and inventoried historic/architectural sites from future growth. Protection of these resources will be accomplished through appropriate zoning ordinances, proper planning practices and appropriate mitigation."*

C. Comments from Environmental Review Authorities

The **Natural Resources Conservation Service**, in correspondence dated February 5, 2007, noted that the proposed water main would not convert prime farmland.

The **U. S. Fish and Wildlife Service** stated in correspondence dated February 27, 2008:

> *The route segment between the water intake and the first excavated stream crossing is forested and appears to require tree clearing. Riparian tree removal would also be required at 3 of the excavated stream crossings. The only wetlands identified within the construction limits are 2 small linear emergent wetlands*

within a ditch. Potential impacts include disruption of aquatic habitat, water quality and riparian habitat at the excavated stream crossings. For excavated crossings, riparian disruption would be permanent due to the need for pipeline maintenance access.

We recommend the following measures to further minimize impacts on wildlife habitat:

1. *Use directional drilling at the westernmost intermittent stream crossing. Two forested headwater streams come together at this location and the riparian forest is very wide.*

2. *Install excavated stream crossings during the dry season or otherwise during times of minimal flow.*

3. *Install excavated stream crossings sufficiently deep to prevent pipeline exposure from stream channel downcutting.*

4. *Install the water line as close to US 421 as possible in the forested route segment between the water intake and the first excavated stream crossing.*

5. *Use best management practices during construction to prevent soil erosion and runoff to streams.*

6. *Revegetate disturbed soils immediately after construction, using native vegetation beneficial to wildlife in riparian zones.*

Endangered Species: The proposed project is within the range of the federally endangered Indiana bat (Myotis sodalis). While some foraging habitat may exist in the project area, we concur that the proposed project is not likely to adversely affect this listed species.

This precludes the need for further consultation on this project as required under Section 7 of the Endangered Species Act of 1973, as amended. If, however, new information on endangered species at the site becomes available or if project plans are changed significantly, please contact our office for further consultation.

The **IDNR Division of Historic Preservation and Archaeology** stated in correspondence dated December 18, 2007:

In terms of archaeological resources, we concur with the conclusions and recommendations of the archaeological report that sites 12De718-12De721, 12De723-12De725, 12De728-735, and 12De737 do not appear eligible for inclusion in the National Register of Historic Places. Therefore, no further archaeological investigations are necessary for these sites. However, sites 12De722, 12De726, 12De727, and 12De736 appear potentially eligible for inclusion in the National Register of Historic Places. These sites must be avoided by all project activities or subjected to further archaeological investigations. It is our understanding that the current proposed project has been modified to avoid all these sites.

If any archaeological artifacts or human remains are uncovered during construction, demolition, or earthmoving activities, state law (Indiana Code 14-21-1-27 and 29) requires that the discovery must be reported to the Department of Natural Resources within two (2) business days. In that event, please call (317) 232-1646. Be advised that adherence to Indiana Code 14-21-1-27 and 29 does not obviate the need to adhere to applicable federal statutes and regulations.

In regard to buildings and structures, we have identified the following property within the probable area of potential effects, and we believe that it meets the criteria of eligibility for inclusion in the National Register of Historic Places due to its historical and architectural significance:

> *J.D. Pleak House, 3321 N. U.S. 421 (site #031-003-10092) is significant as an outstanding example of the adaptation of High Style architecture to the five bay I-House formation.*

In addition, we have identified the following property within the probable area of potential effects, and we believe that it may meet the criteria of eligibility for inclusion in the National Register of Historic Places:

> *House, 4717 SR 421 (site #031-003-10073) is significant as an example of a masonry I-House.*

However, based on the information provided to our office, we do not believe that the aforementioned historic properties will be altered, demolished, or removed by the proposed project.

The **IDNR Environmental Unit** stated in correspondence dated March 14, 2008:

The Indiana Department of Natural Resources has reviewed the above referenced project per your request. Our agency offers the following comments for your information and in accordance with the National Environmental Policy Act of 1969.

Regulatory Assessment: This proposal will require the formal approval of our agency for construction in a floodway pursuant to the Flood Control Act (IC 14-28-1), unless it qualifies for utility exemption under Administrative Rule 312 IAC 10-5-4. Please include a copy of this letter with the permit application (if required).

Natural Heritage Database: The Natural Heritage Program's data have been checked. To date, no plant or animal species listed as state or federally threatened, endangered, or rare have been reported to occur in the project vicinity.

Fish & Wildlife Comments: We recommend that the directional bore method be used for all creek crossings, where possible. To avoid the need to clear trees and eliminate forested habitat, the bore pits should be located landward of the creek's forested riparian corridor on both sides of the creek.

Place the line within the cleared road right-of-way where feasible. Where forested areas are adjacent to the road, place the line on the side of the road containing the least amount of woody vegetation/forested areas. To minimize habitat fragmentation, where forested habitat clearing will be necessary, the line easement should be placed along the outside edge of the forested area. Placement of the easement within a forested area may create narrow corridors of fragmented or functionally degraded habitat between the line easement and the road's cleared right-of-way.

Right of way clearing for periodic inspection and maintenance should be limited to as narrow an area as possible. Temporary and permanent impacts to forested habitat need to be mitigated at the same ratio. Impacts to non-wetland forest under 1 acre should be mitigated at a 1:1 ratio. Impacts to non-wetland forest over 1 acre should be mitigated at a minimum 2:1 ratio. Coordination with the US Army Corps of Engineers and the Indiana Department of Environmental Management is recommended when a project will impact wetlands or potential wetlands. Wetland impacts should be mitigated at the appropriate ratio (see http://www.in.gov/legislative/register/20061213-IR-312060562NRA.xml.pdf).

Temporary stream crossings should be designed to minimize obstruction of the channel. The cross-sectional area of the culvert pipes used should be similar to the cross-sectional area of the channel at normal flow to minimize flow acceleration, which could cause stream bed scouring, and to allow unimpaired upstream fish movement.

In addition to the above recommendations, fish, wildlife, and botanical resource losses as a result of this project can be minimized through implementation of the following measures.

Revegetate all bare and disturbed areas with a mixture of grasses (excluding all varieties of tall fescue), legumes, and native shrub and hardwood tree species as soon as possible upon completion.

Minimize and contain within the project limits in-channel disturbance and the clearing of trees and brush.

Do not work in the waterway from April 1 through June 30 without prior written approval of the Division of Fish and Wildlife.

Use minimum average 6 inch graded riprap stone extended below the normal water level to provide habitat for aquatic organisms in the voids.

Appropriately designed measures for controlling erosion and sediment must be implemented to prevent sediment from entering the stream or leaving the construction site; maintain these measures until construction is complete and all disturbed areas are stabilized.

Do not cut any trees suitable for Indiana bat roosting (greater than 5 inches in diameter, living or dead, with loose hanging bark) from April 1 through October 1.

Seed and protect all disturbed streambanks and slopes that are 3:1 or steeper with erosion control blankets (follow manufacturer's recommendations for installation); seed and apply mulch on all other disturbed areas.

VIII. MITIGATION MEASURES

The city's PER states:

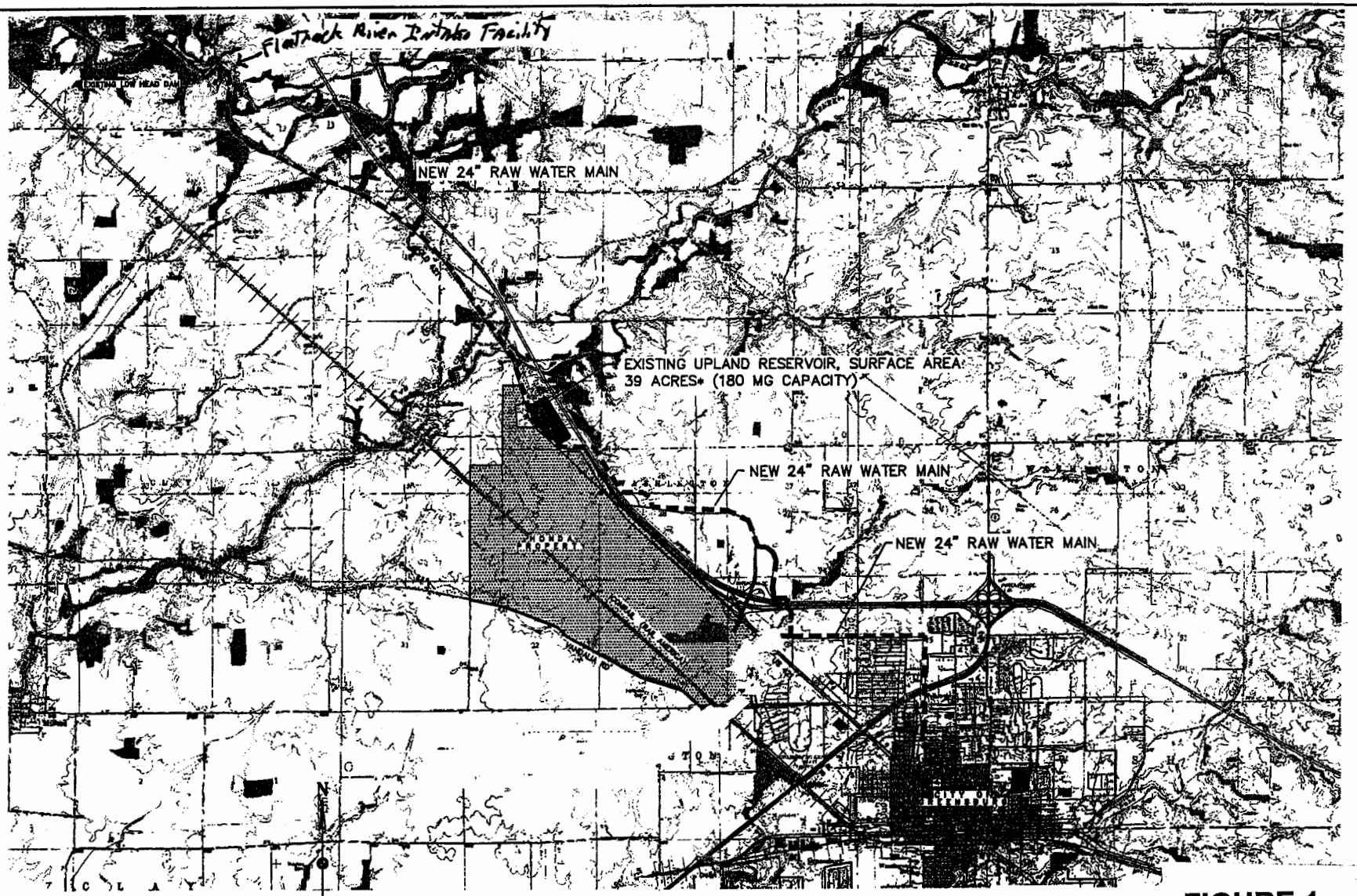
Noise impacts from construction activities would be minimized. In addition, the hours of construction activity will be limited to daylight hours (except in case of an emergency) to minimize noise disturbances. Proper cleanup practices will be required to reduce the creation of dust or other construction debris nuisances. In general, efforts will be made to avoid construction-related impacts. Where an impact cannot be avoided, appropriate mitigation measures will be utilized. For example, a Rule 5 Stormwater Pollution Prevention Plan will be prepared for each construction project to reduce erosion and contamination resulting from construction, and all necessary permits will be obtained in order to fully comply with regulatory requirements.

The construction specifications will require that proper mitigation measures be used to control sedimentation and erosion of the soil from the various Phase 2 construction sites. Mitigation methods for construction may include, but are not limited to, the following:

- *Excavation will be kept to a minimum in order to reduce erosion problems.*
- *Piping installation methods, including jacking and boring and horizontal directional drilling, will be implemented in specific locations to avoid impacts to wetlands, creeks, wooded areas, and roadway traffic.*
- *Appropriate erosion control measures such as sediment basins, staked hay bales, rip-rap, seeding, and mulching will be provided during and after construction where necessary.*
- *Drainage systems will be stabilized as early as possible to avoid sedimentation.*
- *Surface and subsurface drainage patterns will be restored as early as possible.*
- *Measures will be taken to avoid excessive construction debris and soil being tracked onto existing roadways.*
- *Areas of exposed soil will be wetted periodically as needed to control dust.*

IX. PUBLIC PARTICIPATION

A properly noticed public hearing was held at the City Hall at 5:00 PM on December 20, 2006. Members of the Municipal Water Board raised questions about an existing 14-inch water line and future reservoir construction. The city received no written comments in the 5-day period following the hearing.



HNTB

FIGURE 1

PHASE 2 RAW WATER MAIN
WATERWORKS IMPROVEMENTS PROGRAM PER
CITY OF GREENSBURG, INDIANA
NOVEMBER 2006
REVISED AUGUST 2007